

THE MASSACHUSETTS ENVIRONMENTAL RESULTS PROGRAM:

⇒ *Protecting the Environment and Helping Small Businesses* ⇐

WHAT IS THE ENVIRONMENTAL RESULTS PROGRAM?

The Massachusetts Environmental Results Program (ERP) is a bold advancement in environmental policy that offers a promising vision for 21st century environmental management.

ERP is an on-going environmental performance initiative that seeks to cost-effectively improve environmental performance through a less burdensome, and more transparent, regulatory system. In this system, facilities are educated about their environmental impact and obligations,

“The Massachusetts Environmental Results Program creates “a powerful incentive for the owners or managers of small business sectors to take personal responsibility for complying with environmental regulations.”

*“Transforming Environmental Protection for the 21st Century,”
Report by the National Academy of Public Administration
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are required to certify compliance, and are tracked to evaluate environmental performance. In addition, the Massachusetts Department of Environmental Protection (MADEP) applies a statistical approach to track environmental performance of individual facilities and whole industry groups and uses the results to target compliance assistance and inspections.

The ERP approach applies three innovative tools to enhance and measure environmental performance. These tools supplement MADEP’s traditional compliance inspection program:

1. An annual **self-certification** of compliance by companies to increase self evaluation and accountability;
2. **Compliance assistance** from the agency through outreach and innovative workbooks; and
3. A new **performance measurement** approach to track results, determine priorities and strategically target compliance inspections and assistance efforts.

The ERP approach is complemented by the Department’s performance of traditional, random and targeted compliance inspections. ERP is not a voluntary or leadership program; for those sectors covered by ERP, participation (including self-certification of compliance) is mandatory.

ERP Tools: A Closer Look

1. SELF-CERTIFICATION FORMS

- *Technique:* ERP shifts the burden of compliance assurance from government to the facility while still maintaining government's oversight role. It raises high-ranking facility managers' and operators' awareness and prioritization of environmental performance. By requiring that facilities certify their compliance status and that they will maintain systems to remain in compliance, and by replacing state permits with performance standards, ERP creates an Environmental Management System approach to ensure ongoing good environmental performance at facilities. The self-certification form provides an easy way for facility management and staff to understand environmental obligations and gauge environmental performance.
- *Tools:* ERP requires that a senior company official annually "self-certify" the facility's compliance status and that the facility have systems in place to maintain compliance with all applicable state air, water, and hazardous waste management performance standards. This self-certification is backed up by training, workbook review, and a checklist of regulatory requirements. The self-certification replaces case-by-case state permits where applicable. Facilities that are not in compliance must complete a Return to Compliance (RTC) plan, which commits them to specific corrective actions and a schedule to achieve full compliance.

2. COMPLIANCE ASSISTANCE WORKBOOKS

- *Technique:* MADEP aids the self-certification process by providing compliance assistance for all ERP facilities. This effort incorporates both regulatory requirements and "beyond compliance" practices. It encourages facilities to improve overall environmental performance through pollution prevention and other management approaches. By making environmental performance and regulatory requirements meaningful to facilities, the program strives to motivate facility managers to fully understand their environmental impact and obligations.
- *Tools:* Compliance assistance includes "plain language" sector-specific workbooks and workshops that clearly explain facilities' environmental obligations. The compliance assistance is linked to the self-certification by requiring the facility operator to certify to compliance with all the requirements found in the workbook. The sector workbooks and workshops also include both regulatory compliance requirements and sound environmental practices that are "beyond compliance." Similarly, the sector workbooks and workshops include information about the environmental, worker and public health impact of a facility's operations.

3. ENVIRONMENTAL BUSINESS PRACTICE INDICATORS (EBPIs)

- *Technique:* MADEP's performance measurement fosters more accountability by both industry and government. It allows MADEP to effectively focus available resources on sectors, facilities and specific practices that need the greatest level of attention.
- *Tools:* MADEP is experimenting with an evaluation methodology that uses statistical analysis and random sampling techniques to measure the performance of ERP sectors and facilities as well as to validate the performance of the program itself. MADEP also uses its evaluation to target facilities for inspections and compliance assistance. For the purpose of evaluation, MADEP has tracked environmental business practice indicators (EBPIs), industry-specific performance measures that provide a snapshot of facilities' environmental performance before and after certification as well as performance over time.

During the initial rollout phase of ERP, MADEP focused on sectors that were primarily subject to state, rather than federal, requirements. The decision was based on MADEP's desire to focus ERP on small business sectors during its initial development and application because of the lower perceived risks of individual small businesses and the high potential environmental gains from improved performance by whole business sectors.

ERP currently applies to more than 2,000 Massachusetts facilities in three sectors: dry cleaning, photoprocessing, and printing. MADEP is in the process of expanding ERP to two additional, cross-sector categories: (1) facilities discharging industrial wastewater (IWW) to sewers; and (2) facilities installing new boilers. The state is also expanding the program into other sectors and USEPA and MADEP have formed a partnership to investigate the transferability of the ERP approach and its tools to other states.

What is an EBPI?

The use of Environmental Business Practice Indicators (EBPIs) is one of the tools developed by MADEP as part of the Environmental Results Program. EBPIs are industry-specific performance measures designed by MADEP to give a snapshot of a facility's environmental performance.

The EBPIs include both traditional program compliance measures (e.g. level of compliance with labeling or record keeping requirements) and measures that go beyond program compliance (e.g. use of low-VOC cleaning solvents, extent of silver recovery, and perchloroethylene recovery). The number of EBPIs for each sector differs: there are 18 EBPIs for printers, dry cleaners have 16 and photoprocessors have 8.

MADEP conducts statistical analyses based on data from random inspections and review of self-certification, to evaluate the performance of individual facilities, sectors and ERP as a whole. MADEP uses its evaluation to:

1. Determine industry-wide compliance rates and actual environmental performance;
2. Make more informed and strategic resource allocation decisions for inspections and compliance assistance efforts;
3. Evaluate ERP's programmatic effectiveness.

WHAT PROBLEMS IS MA ERP DESIGNED TO SOLVE?

MADEP undertook ERP to address several concerns, in its view, about the effectiveness of the existing regulatory system for small business and the agency's limited resources. MADEP believes that the traditional regulatory approach:

- Does not efficiently cover all facilities regulated by the state. For example, only 10% of dry cleaners were identified in the state's compliance program prior to ERP implementation (95% of dry cleaners are now identified under ERP);

- Favors single medium, rather than multimedia, compliance;
- Needs to encourage more pollution prevention;
- Leads to significant costs for both facilities and MA DEP to permit small sources that individually contribute a small fraction to overall pollution.
- Could benefit from more compliance assistance to inform small businesses of their environmental obligations.
- Does not achieve a desired level environmental performance.
- Does not promote lasting change and improvement in environmental performance at facilities due to the sporadic nature of inspections; facilities' staff's limited understanding of regulatory requirements and "beyond-compliance" possibilities; and the frequent turnover of facilities within the regulated sectors.

WHAT RESULTS HAS MASSACHUSETTS SEEN TO DATE?

⇒ Environmental Outcomes

- ERP has led facilities to identify and correct regulatory violations. 86% of printers involved in an ERP pilot reported that the program influenced them to make environmentally beneficial changes in their facility operations. Anecdotal evidence suggests many facilities corrected violations prior to the certification deadline.
- ERP also has led facilities to adopt pollution prevention (P2) measures and go "beyond compliance." ERP's workbooks and EBPIs include pollution prevention practices in addition to performance measures.

- Both quantitative and qualitative early results reveal higher environmental performance. Both dry cleaners and

"By expanding the number of small businesses inside the state's regulatory system, DEP not only increases the scope of compliance with regulatory standards, but also levels the economic playing field among hundreds of competitors and thus reduces the incentive to ignore environmental safeguards."

"Transforming Environmental Protection for the 21st Century," Report by the National Academy of Public Administration
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photoprocessors had a statistically significant increase in environmental performance as a result of ERP. In the first year of ERP, 10% of facilities self-disclosed violations and committed to return to compliance. Printers were found to have reduced VOC emissions, ceased disposing of hazardous waste with their solid waste, and eliminated practices such as washing ink-contaminated press rollers in sinks. Dry cleaners were found to have made

significant compliance and pollution prevention changes to their operations as a result of ERP. Changes included: instituting leak detection and repair programs; changing filters more regularly; vacuuming coils on a schedule; scheduling full loads whenever possible; and eliminating illegal wastewater discharges. Finally, photoprocessors found that ERP prompted reductions in silver discharges to POTWs through installation of silver recovery units and frequent planned cartridge changes.

⇒ Compliance

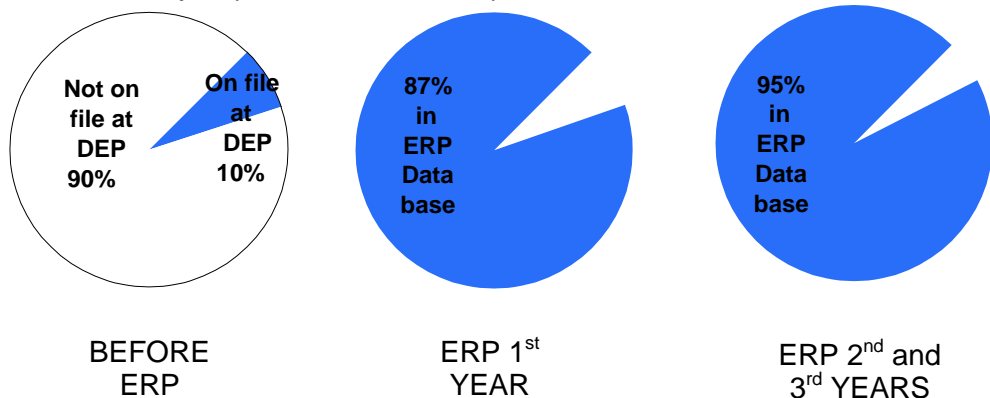
- Because ERP requires certification of compliance by high-level company officials, it has increased senior management attention to environmental management.

“It meant my boss (the president) gave me the ‘keep me out of jail speech’ every time that he signed it.”

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- One of the most marked effects of ERP was bringing many facilities into MADEP’s regulatory system that had not previously been unaccounted-for. For example, before implementation of ERP, only 10% of dry cleaners were in the state regulatory database; (i.e. “in the system”) two years after ERP began, that number had jumped to 95%. The National Academy of Public Administration reported that prior to ERP, only approximately 380 firms were accounted for by DEPs’s regulatory system in all three sectors and that post- ERP, that number had increased to 2,200 firms.

Figure: Increase of Dry Cleaners “in the system”



- The initial response to ERP by facilities was very high, quickly bringing self-certification into effect for the majority of affected facilities. An important ERP technique for bringing facilities into compliance is the requirement of Return-to-Compliance (RTC) Plans for those facilities reporting non-

“The certification was, for many firms, the first time they had comprehensively reviewed their environmental performance. Firms were quick to make changes so as to submit certifications showing full compliance.”

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compliance. Eighty percent of dry cleaners and photoprocessors accurately completed self-certifications in 1997, the first year of the program. In addition, 10% of the ERP facilities filed RTC Plans and, of those, 35% committed to take steps to decrease environmental impacts through actions such as installing pollution controls and implementing pollution prevention practices.

⇒ **Administrative Costs**

- ERP allowed MADEP to reduce state fees for regulated facilities. ERP led to a net saving for most companies that had obtained required state permits in the past. For example, a mid-size printer would have paid as much as \$2,000 in permit fees to cover the cost of MADEP permit review under the traditional system but now pays one annual fee of \$200 for ERP since no MADEP permit review is required. Another potential cost saving for printers is the elimination of the required modification permits, allowing printers to simply report facility changes in their annual ERP self-certification. The elimination of the preconstruction requirement both decreases the paperwork for printers and increases their flexibility to make changes without having to plan far in advance and wait for a permit. Despite the actual decrease in regulatory costs to facilities, those facilities that had never notified MADEP to come into the regulatory system or paid required fees prior to ERP perceived the ERP fee as a cost increase.
- Although no new resources were allocated to develop the program, many staff within MADEP perceived that ERP had high startup costs because initially resources were drawn from other program areas to allow for ERP program development. Staff drawn from existing programs were assigned to teams to develop the workbooks and the EBPIs, prepare the program regulations, interact with stakeholders, and develop the universe of facilities for three business sectors. In total, 14 Full-time Equivalents (FTEs) comprised of MADEP management and staff worked on ERP, which represents about 1% of the agency's total staff. A significant number of the 14 FTEs can be attributed to the start-up costs of developing new approaches, systems and procedures. The 14 FTEs also must be considered in the context of the level of resources that would have been needed to conduct a comparable traditional regulatory initiative for these sectors.
- Maintenance costs for each ERP sector after start up are now less than 1 FTE per sector. In hindsight, MADEP views the 14 FTEs as a sound strategic investment in relation to ERP's environmental benefits to date, the tools it has developed, and the usefulness of ERP to future additional business sectors. Furthermore, as part of its current expansion of ERP, MADEP is finding that up-front program development costs are considerably lower because the agency has already "learned the ropes" of creating an ERP. Similarly, MADEP expects that other states would experience lower up-front program development costs, particularly if those states focused on the same sectors already addressed by MADEP, since MADEP has already created program materials.

WHO BENEFITS FROM ERP?

Environment

- Overall industry environmental performance improved as a result of ERP. 77% of the EBPIs showed either high performance or a statistically significant increase in environmental performance in a comparison between the baseline and the first ERP certification. High performance includes such practices as not discharging toxic pollutants to septic systems and installing appropriate pollution control equipment. Only 10% of the indicators showed a statistically significant decrease in environmental performance: e.g. proper labeling of containers.
- Facilities' increased understanding and certification of compliance with requirements, as well as the inclusion of information on pollution prevention in compliance workbooks, also led to environmental benefits. Many facilities report that ERP has influenced them to make environmentally beneficial process changes and has helped to ensure that the facilities are environmentally responsive. Facilities also completed Return to Compliance plans that resulted in decreased environmental impacts and improved compliance systems.
- The changes in business management attitudes reported by ERP facility environmental managers are expected to have a positive and continuing effect on future environmental performance.
- ERP benefits the environment by increasing the number of facilities in the system who know their environmental obligations. As described above, the universe of firms in the system has increased dramatically under ERP.

Industry

- ERP assists facilities in understanding their environmental regulatory requirements and monitoring their environmental performance. This approach is similar to that used to determine environmental compliance in many industrial Environmental Management Systems (EMS). As a facility representative interviewed for the NAPA report said, "one sleeps better knowing [one is] in compliance."
- ERP also has led to long term cost savings for most facilities through reduced government fees and greater flexibility in deciding how to meet regulatory requirements. Also, by not having to apply for or modify state permits prior to making operational changes, businesses gain additional cost savings from ERP because delays associated with permit reviews are eliminated.
- Pollution prevention efforts have the potential of saving industrial facilities additional money through use of less raw materials, lower liability costs, and reduced waste handling costs.
- Whole industry groups and individual facilities can demonstrate to the public that they are good environmental neighbors.

Public

- The public benefits from ERP through enhanced business accountability and an increase in facilities accounted for in the regulatory system. This has resulted in an increase in environmental benefits, public health benefits, and a greater efficiency in use of government resources. While the universe of facilities in the regulatory system has drastically increased (see “Environment,” above), MADEP’s regulatory maintenance costs are not expected to change significantly.
- Public participation and information also have played a significant role in ERP. Diverse stakeholders were offered the opportunity to participate in development of the ERP. Information on the self-certification status of all affected facilities, as well as on the results of MADEP’s analysis of overall industry environmental performance, is publicly available through MADEP.

Agency

- MADEP benefits from ERP through its improved ability to track environmental performance of facilities, sectors, and specific practices, which allows for cost effective resource allocation. For example, the agency can now target inspection and assistance resources at facilities that have not self-certified compliance or that indicate on their certifications that they have significant compliance problems (i.e. the 10% that filed Return to Compliance Plans) or are affected by specific industry-wide problem areas. Also, the increase in facilities in the system provides for more effective coverage of the involved sectors.
- While initial program development costs for ERP were significant, MADEP expects to see cost savings in the long term as maintenance costs to oversee whole business sectors are compared to full implementation costs for the traditional regulatory approach.

HOW DID MASSACHUSETTS CREATE ERP?

The Environmental Results Program had its origin in a 1995 conversation between two stakeholders that centered on the concept of environmental performance standards as a substitute for permitting. The two stakeholders - one from an environmental advocacy organization and one from an industry organization - agreed that such an approach could provide more effective enforcement of standards while granting more flexibility to industry. MADEP representatives developed the idea into what would become known as the Environmental Results Program or ERP.

Stakeholder Involvement and Management Support

An important tool in the development of ERP was a multi-stakeholder advisory group. This group was comprised of representatives from USEPA, other governmental bodies, environmental advocacy groups, business and industry, consulting firms, and the legal community. This advisory group was quite active in the first years of ERP, advising MADEP on the design of the certification statement, workbooks, and the demonstration project. ERP also benefited from senior MADEP management support. The Massachusetts Governor and MADEP Commissioner both strongly supported ERP and the regulatory “reinvention” concepts it represents. High-level support within MADEP helped implement the innovative program as did the commitment of several key staff members. In addition, MADEP’s multimedia structure and centralized budgetary system helped ERP managers access resources from across the agency.

Pilot and Program Roll-Out

The first stage of ERP implementation was a 1996 Demonstration Project involving 18 small and medium-size businesses. The firms, which volunteered to participate, worked with MADEP to develop process-specific performance standards. The Demonstration Project also tested other ERP techniques, such as annual compliance certification, compliance assistance, and performance standards.

Based on lessons learned in the Demonstration Project, MADEP launched ERP in 1997 in two sectors: dry cleaners and photo processors. Printers were added in 1998. MADEP chose these sectors based on several factors, including: the lower perceived risk in experimenting with small businesses; the high potential gains from including a large number of regulated entities; and the advantages of working with cooperative trade associations.

MADEP and USEPA entered into an agreement under Project XL. The Final Project Agreement (FPA) is an umbrella agreement that lays out a process and criteria for how MADEP can request and USEPA can provide federal regulatory flexibility.

Challenges

Development of ERP did not proceed without its share of challenges. These challenges included:

- Facing concerns by environmental groups about ERP’s relationship to the Governor’s overall “less government” theme, and about demands on their limited resources;
- Managing internal skepticism from MADEP staff and managers about the degree of environmental improvement that would result from ERP;
- Addressing expectations that an innovative regulatory approach should be held to a higher standard of success than existing, traditional regulatory programs;
- Building new MADEP staff skills to implement a performance based system;
- Overcoming institutional resistance to change and stakeholder fears about a new government approach to environmental regulation; and
- Gaining acceptance of a new measurement system for tracking both industry and the agency’s progress.

ERP Next Steps

As mentioned previously, MADEP is now in the process of expanding ERP to two additional, cross-sector groups: (1) facilities discharging industrial wastewater (IWW) to sewers, which comprise an IWW “sector” and (2) facilities installing new boilers, which comprise a combustion “sector.” Certifications for boilers are planned for Spring 2001, while IWW certifications are currently planned for Fall 2002. MADEP also is preparing industry performance reports, planning to pick its next ERP business sectors, and continuing development of the performance measurement and resource allocation components of the program.

“States should adopt and adapt the Massachusetts Environmental Results Program to their own small-business problems. Wherever possible, EPA and the states should standardize the compliance assistance/facility level requirements to reduce the cost of program design, and to speed the rapid introduction of the self-certification approach.”

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HOW CAN WE START A SIMILAR PROGRAM IN MY STATE?

Developing an ERP

The MADEP experience points to five steps that a state agency should consider in adopting an approach similar to ERP and/or its tools. These five steps will be outlined in greater detail in a comprehensive ERP User’s Guide that is currently being developed. In short, the five steps to consider are:

1. **Investigate** – States should consider the following questions in determining if the ERP approach or its tools may be useful in achieving their program and/or environmental objectives:
 - Could the ERP approach and its tools address unresolved environmental problems, such as low compliance rates, burdensome permitting processes, etc.)?
 - What economic sectors would be most appropriate for an ERP approach and its tools (see box)?
 - Does the state have an organizational structure or culture that supports innovative approaches to environmental problem solving?

2. **Plan** – Considerable planning goes into developing an ERP. Technical workbooks and performance standards need to be developed. State regulations may need to be promulgated to allow certifications to replace permits and to establish performance standards. An information management system needs to be created to efficiently manage data created by the program. Resources need to be secured and management operations need to be put in place. Mechanisms need to be established to maintain early and consistent communication with stakeholders. The materials already developed by MADEP, including self-certification language, regulations, EBPIs and workbooks, might prove very useful to other states, particularly if they are developing efforts in the same three sectors that are included in the MADEP ERP program.

An Industrial Sector Might Be Ideal for a Start-up ERP-Type Program if it...

- Has a dominance of state rather than federal requirements;
- Has an active trade association;
- Has a reasonably large number of smaller operating facilities;
- Maintains a relatively cooperative relationship with the state regulatory agency;
- Has a significant environmental impact as a whole;
- Is historically un- or under-regulated;
- Has demonstrated an interest in regulatory innovation;
- Has a good environmental return on resource investment;
- May be facing new or changing sector-wide environmental regulatory requirements.

3. **Pilot** – MADEP found significant benefits from first piloting ERP with 18 facilities and then “rolling it out” to whole industry sectors. In particular, piloting ensures that internal mechanisms are in place to guarantee program success. Other states can benefit from the experiences of the MADEP pilot but may also benefit from undertaking their own pilots.
4. **Implement** – Managing implementation of a program that affects thousands of facilities is an important task for an agency. Doing so for a program that is significantly different from traditional regulatory approaches is even more challenging. Stakeholders need to be continually informed as to the program’s results. Senior agency management also needs to be informed of early findings. Automation and statistical analyses are key elements in the ERP approach so resources need to be dedicated for the full term of program implementation.
5. **Evaluate and Modify** – New and innovative programs need to have mid-course evaluations so that appropriate corrections and refinements can be made. MADEP uses its performance measurement system to track program progress and to determine where to conduct strategically targeted inspections, and where to apply assistance and enforcement resources. Other states developing an ERP will also want to consider how to best use “checks and balances” and performance measurement tools to evaluate the progress of facilities, sectors and the program itself.

Partnership Opportunities

A MADEP/USEPA partnership has been formed to investigate the transferability of the ERP approach and its tools to other states and environmental applications. This partnership is interested in working with states to (1) help them understand the ERP approach and its tools, (2)

facilitate information sharing among states, and (3) assist states in testing ERP approaches in solving environmental problems.

For more information on the ERP approach and its tools:

- Contact Tara Velazquez, MADEP, (617) 348-4040, or visit the MA DEP Website at <http://www.state.ma.us/dep/erp>
- Contact Greg Ondich or Patricia Mott, USEPA, (202) 556-2215 or (202) 564-5133, respectively, for information on the ERP approach and its tools, as well as planned stakeholder meetings to explore applications of this approach in addressing state environmental problems.
- Review the ERP User's Guide at: <http://www.epa.gov/permits/>
- Begin to take preliminary steps as outlined in the box below:

Next Steps for Exploring the Application of an Environmental Results Program Approach in Your State

If you represent state government:

- Identify problems and benefits that your agency may address and gain, respectively, from implementing an ERP;
- Determine if other programs are already underway in your agency upon which an ERP could be “piggybacked;”
- Identify sectors that might be ideal for an ERP;
- Consider how ERP might fit into environmental and internal “reinvention” or “innovation” priorities of your agency;
- Consider whether individual tools of ERP or ERP as a whole may be most effective in your state; and
- Provide senior agency management with this executive summary and the ERP Brochure.

If you represent an industrial sector:

- Identify what “problems” ERP might solve for your sector and what benefits it might bring to your sector.
- Determine a general level of interest by facilities in your sector. Initiate a discussion with facilities and relevant trade associations about ERP;
- Consider how the ERP approach might complement other initiatives underway in your sector;
- Consider whether individual tools of ERP or ERP as a whole might be most effective in your sector; and
- Meet with upper management in the state environmental agency to discuss ERP.

If you are a private citizen or environmental advocacy group:

- Identify your areas of concern;
- Determine the level of interest within your community or organization to pursue environmental improvements through an Environmental Results Program;
- Meet with industry representatives to gauge their interest and concerns about ERP; and
- Contact senior managers at state and federal environmental agencies to promote adoption of an ERP.